



**Analytical Resources, Incorporated**

Analytical Chemists and Consultants

February 23, 2011

Tom Colligan  
Floyd Snider  
601 Union Street, Suite 600  
Seattle, WA 98101-2341

**RE: Project: Jorgensen Forge PLO**  
**ARI Job No: SJ49**

Dear Tom:

Please find enclosed analytical results and the original Chain of Custody documentation (COC) for the project referenced above. Analytical Resources, Incorporated (ARI) accepted ten soil samples and one water sample on January 24, 2011. The samples were received in good condition. Select samples were placed on hold pending further instructions.

The samples were originally analyzed for Total Metals, TCLP Metals, SVOCs, PCBs and NWTPH-Dx, as requested and reported under ARI SDG SG07.

At the request of Floyd Snider, select samples were analyzed for TCLP follow ups.

No analytical complications were noted for these analyses. Quality control results are included for your review.

A copy of the reports and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

  
ANALYTICAL RESOURCES, INC.

Kelly Bottem  
Client Services Manager  
kellyb@arilabs.com  
206-695-6211  
Enclosures

Subject: TCLP request- Jorgensen Project

From: Tom Colligan &lt;Tom.Colligan@floydsnider.com&gt;

Date: Wed, 23 Feb 2011 12:43:08 -0800

To: Kelly Bottem &lt;kellyb@arilabs.com&gt;

Kelly, please submit each of the remaining 8 oz sample of the samples on this COC, less the last two samples, for TCLP analysis. 7 day TAT. Thanks.

Tom Colligan  
**FLOYDSNIDER**  
 Two Union Square  
 601 Union Street, Suite 600  
 Seattle, WA 98101  
 tel: 206.292.2078  
 direct line: 206-805-2166  
 fax: 206.682.7867  
 cell: 206-276-8527

tom.colligan@floydsnider.com

## Chain of Custody Record &amp; Laboratory Analysis Request

ARI Assigned Number: 5		Turn-around Requested: Standard		Page 1 of 2					
ARI Client Company: FLOYD SNIDER		Phone: 206-292-2078		Date: 1/24/11	Ice Present? Y				
Client Contact: NICK GARSON / TOM COLLIGAN		No. of Coolers: 1		Cooler Temps: 6.6					
Client Project Name: JORGENSEN FORGE		Analysis Requested							
Client Project #: 7KPL2TOR		Samples: DEAN BRAME / TOM COLLIGAN							
Sample ID	Date	Time	Matrix	No. Containers	PCBs	SVOCs	TPH-D	Metals As, Cd, Cr, Pb, Mn, Zn	Notes/Comments
JF-PLSD-PS-15A	1/24/11	1310	SOIL	3	X	X	X	X	
JF-PLSD-PS-15B		1455							
JF-PLSD-PS-24A		1340							
JF-PLSD-PS-24B		1415							
JF-PLSD-PS-37-7		1230							
JF-PLSD-PS-37-2		1200							
JF-PLSD-PS-PUBLIC		1110							
JF-PLSD-PS-24B-D		1420							
JF-PLSD-PS-37-7-M		1235	V						MS/MSD
JF-PLSD-PS-15B-R		1515	WATER	2	X				
Contractor's Special Instructions		Requested by (Signature): Dean Brame		Requested by (Signature): Taylor Stricker		Requested by (Signature):		Requested by (Signature):	
Printed Name: DEAN BRAME		Printed Name: Taylor Stricker		Printed Name:		Printed Name:		Printed Name:	
Company: FLOYD SNIDER		Company: ARI		Company:		Company:		Company:	
Date & Time: 1/24/11 1606		Date & Time: 1/24/11 1606		Date & Time:		Date & Time:		Date & Time:	



Analytical Resources, Incorporated  
 Analytical Chemists and Consultants  
 4611 South 134th Place, Suite 100  
 Tukwila, WA 98166  
 206.695.6200 206.695.6291 fax

**Limit of Liability:** ARI will perform all requested services in accordance with appropriate methodology including ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its clients, agents, employees, or successors arising out of or in connection with the requested services, shall not exceed the insured amount for

Picture (Device Independent Bitmap) 1.jpg

Content-Description: Picture (Device Independent Bitmap) 1.jpg

Content-Type: image/jpeg



# Sample ID Cross Reference Report



ARI Job No: SJ49  
Client: The Boeing Company  
Project Event: 7KPL2JOR  
Project Name: Jorgensen Forge

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. JF-PLSD-PS-15A	SJ49A	11-3467	Soil	01/24/11 13:10	01/24/11 16:06
2. JF-PLSD-PS-15B	SJ49B	11-3468	Soil	01/24/11 14:55	01/24/11 16:06
3. JF-PLSD-PS-24A	SJ49C	11-3469	Soil	01/24/11 13:40	01/24/11 16:06
4. JF-PLSD-PS-24B	SJ49D	11-3470	Soil	01/24/11 14:15	01/24/11 16:06
5. JF-PLSD-PS-37-7	SJ49E	11-3471	Soil	01/24/11 12:30	01/24/11 16:06
6. JF-PLSD-PS-37-2	SJ49F	11-3472	Soil	01/24/11 12:00	01/24/11 16:06
7. JF-PLSD-PS-PUBLIC	SJ49G	11-3473	Soil	01/24/11 11:10	01/24/11 16:06

Printed 02/17/11

# Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 5	Turn-around Requested: Standard	Page: 1 of 2
ARI Client Company: FLOYD   SNIDER	Phone: 206-292-2078	Date: 1/24/11 Ice Present? <input checked="" type="checkbox"/>
Client Contact: NICK GARSON / TOM COLLIGAN		No. of Coolers: 1 Cooler Temps: 6.6



Analytical Resources, Incorporated  
Analytical Chemists and Consultants  
4611 South 134th Place, Suite 100  
Tukwila, WA 98168  
206-695-6200 206-695-6201 (fax)

Client Project Name: JORGENSEN FORGE					Analysis Requested					Notes/Comments		
Client Project #: FKPL2J0R		Samplers: DEAN BRAME / TOM COLLIGAN			PCBs	SVOCs	TPH-D	Metals As, Cd, Cu, Pb Ni, Zn				
Sample ID	Date	Time	Matrix	No. Containers								
JF-PLSD-PS-15A	1/24/11	1310	SOIL	3	X	X	X	X				
JF-PLSD-PS-15B		1455										
JF-PLSD-PS-24A		1340										
JF-PLSD-PS-24B		1415										
JF-PLSD-PS-37-7		1230										
JF-PLSD-PS-37-2		1200										
JF-PLSD-PS-PUBLIC		1110										
JF-PLSD-PS-24B-D		1420										
JF-PLSD-PS-37-7-M		1235	↓	↓	↓	↓	↓	↓			MS/MSD	
JF-PLSD-PS-15B-R	↓	1515	WATER	2	X							
Comments/Special Instructions					Relinquished by: (Signature) <i>Dean Brame</i>		Received by: (Signature) <i>Taylor Straker</i>		Relinquished by: (Signature)		Received by: (Signature)	
					Printed Name: DEAN BRAME		Printed Name: Taylor Straker		Printed Name:		Printed Name:	
					Company: FLOYD   SNIDER		Company: ARI		Company:		Company:	
					Date & Time: 1/24/11 1606		Date & Time: 1/24/11 1606		Date & Time:		Date & Time:	

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoice amount for

## INORGANICS ANALYSIS DATA SHEET

TCLP METALS

Page 1 of 1


Sample ID: JF-PLSD-PS-15A

SAMPLE

Lab Sample ID: SJ49A

LIMS ID: 11-3467

Matrix: Soil

Data Release Authorized: 

Reported: 02/23/11

QC Report No: SJ49-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 01/24/11

Date Received: 01/24/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
1311	02/18/11	6010B	02/21/11	7440-38-2	Arsenic	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-39-3	Barium	0.02	0.19	
1311	02/18/11	6010B	02/21/11	7440-43-9	Cadmium	0.01	0.01	U
1311	02/18/11	6010B	02/21/11	7440-47-3	Chromium	0.02	0.02	U
1311	02/18/11	6010B	02/21/11	7439-92-1	Lead	0.1	0.1	U
1311	02/18/11	7470A	02/22/11	7439-97-6	Mercury	0.0001	0.0001	U
1311	02/18/11	6010B	02/21/11	7440-02-0	Nickel	0.05	2.74	
1311	02/18/11	6010B	02/21/11	7782-49-2	Selenium	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-22-4	Silver	0.02	0.02	U

U-Analyte undetected at given RL  
RL-Reporting Limit

## INORGANICS ANALYSIS DATA SHEET

TCLP METALS


Page 1 of 1

Sample ID: JF-PLSD-PS-15A  
DUPLICATE

Lab Sample ID: SJ49A

LIMS ID: 11-3467

Matrix: Soil

Data Release Authorized: 

Reported: 02/23/11

QC Report No: SJ49-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 01/24/11

Date Received: 01/24/11

## MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6010B	0.2 U	0.2 U	0.0%	+/- 0.2	L
Barium	6010B	0.19	0.19	0.0%	+/- 20%	
Cadmium	6010B	0.01 U	0.01 U	0.0%	+/- 0.01	L
Chromium	6010B	0.02 U	0.02 U	0.0%	+/- 0.02	L
Lead	6010B	0.1 U	0.1 U	0.0%	+/- 0.1	L
Mercury	7470A	0.0001 U	0.0001 U	0.0%	+/- 0.0001	L
Nickel	6010B	2.74	2.70	1.5%	+/- 20%	
Selenium	6010B	0.2 U	0.2 U	0.0%	+/- 0.2	L
Silver	6010B	0.02 U	0.02 U	0.0%	+/- 0.02	L

Reported in mg/L

\*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

## INORGANICS ANALYSIS DATA SHEET

TCLP METALS

Page 1 of 1


Sample ID: JF-PLSD-PS-15A

MATRIX SPIKE

Lab Sample ID: SJ49A

LIMS ID: 11-3467

Matrix: Soil

Data Release Authorized: 

Reported: 02/23/11

QC Report No: SJ49-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 01/24/11

Date Received: 01/24/11

## MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6010B	0.2 U	4.2	4.0	105%	
Barium	6010B	0.19	4.14	4.00	98.8%	
Cadmium	6010B	0.01 U	1.04	1.00	104%	
Chromium	6010B	0.02 U	1.01	1.00	101%	
Lead	6010B	0.1 U	4.1	4.0	102%	
Mercury	7470A	0.0001 U	0.0011	0.0010	110%	
Nickel	6010B	2.74	3.74	1.00	100%	
Selenium	6010B	0.2 U	4.3	4.0	108%	
Silver	6010B	0.02 U	1.02	1.00	102%	

Reported in mg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

## INORGANICS ANALYSIS DATA SHEET

TCLP METALS

Page 1 of 1


Sample ID: JF-PLSD-PS-15B

SAMPLE

Lab Sample ID: SJ49B

LIMS ID: 11-3468

Matrix: Soil

Data Release Authorized: 

Reported: 02/23/11

QC Report No: SJ49-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 01/24/11

Date Received: 01/24/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
1311	02/18/11	6010B	02/21/11	7440-38-2	Arsenic	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-39-3	Barium	0.02	0.75	
1311	02/18/11	6010B	02/21/11	7440-43-9	Cadmium	0.01	0.11	
1311	02/18/11	6010B	02/21/11	7440-47-3	Chromium	0.02	0.12	
1311	02/18/11	6010B	02/21/11	7439-92-1	Lead	0.1	1.3	
1311	02/18/11	7470A	02/22/11	7439-97-6	Mercury	0.0001	0.0001	U
1311	02/18/11	6010B	02/21/11	7440-02-0	Nickel	0.05	2.47	
1311	02/18/11	6010B	02/21/11	7782-49-2	Selenium	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-22-4	Silver	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit



## INORGANICS ANALYSIS DATA SHEET

TCLP METALS

Page 1 of 1


Sample ID: JF-PLSD-PS-24A

SAMPLE

Lab Sample ID: SJ49C

LIMS ID: 11-3469

Matrix: Soil

Data Release Authorized: 

Reported: 02/23/11

QC Report No: SJ49-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 01/24/11

Date Received: 01/24/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
1311	02/18/11	6010B	02/21/11	7440-38-2	Arsenic	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-39-3	Barium	0.02	0.18	
1311	02/18/11	6010B	02/21/11	7440-43-9	Cadmium	0.01	0.08	
1311	02/18/11	6010B	02/21/11	7440-47-3	Chromium	0.02	0.05	
1311	02/18/11	6010B	02/21/11	7439-92-1	Lead	0.1	0.2	
1311	02/18/11	7470A	02/22/11	7439-97-6	Mercury	0.0001	0.0001	U
1311	02/18/11	6010B	02/21/11	7440-02-0	Nickel	0.05	2.46	
1311	02/18/11	6010B	02/21/11	7782-49-2	Selenium	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-22-4	Silver	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit

## INORGANICS ANALYSIS DATA SHEET

TCLP METALS

Page 1 of 1


Sample ID: JF-PLSD-PS-24B

SAMPLE

Lab Sample ID: SJ49D

LIMS ID: 11-3470

Matrix: Soil

Data Release Authorized: 

Reported: 02/23/11

QC Report No: SJ49-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 01/24/11

Date Received: 01/24/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
1311	02/18/11	6010B	02/21/11	7440-38-2	Arsenic	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-39-3	Barium	0.02	0.07	
1311	02/18/11	6010B	02/21/11	7440-43-9	Cadmium	0.01	0.01	U
1311	02/18/11	6010B	02/21/11	7440-47-3	Chromium	0.02	0.02	U
1311	02/18/11	6010B	02/21/11	7439-92-1	Lead	0.1	0.1	U
1311	02/18/11	7470A	02/22/11	7439-97-6	Mercury	0.0001	0.0001	U
1311	02/18/11	6010B	02/21/11	7440-02-0	Nickel	0.05	1.30	
1311	02/18/11	6010B	02/21/11	7782-49-2	Selenium	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-22-4	Silver	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit

## INORGANICS ANALYSIS DATA SHEET

TCLP METALS

Page 1 of 1


Sample ID: JF-PLSD-PS-37-7

SAMPLE

Lab Sample ID: SJ49E

LIMS ID: 11-3471

Matrix: Soil

Data Release Authorized: 

Reported: 02/23/11

QC Report No: SJ49-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 01/24/11

Date Received: 01/24/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
1311	02/18/11	6010B	02/21/11	7440-38-2	Arsenic	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-39-3	Barium	0.02	0.09	
1311	02/18/11	6010B	02/21/11	7440-43-9	Cadmium	0.01	0.02	
1311	02/18/11	6010B	02/21/11	7440-47-3	Chromium	0.02	0.02	U
1311	02/18/11	6010B	02/21/11	7439-92-1	Lead	0.1	0.8	
1311	02/18/11	7470A	02/22/11	7439-97-6	Mercury	0.0001	0.0001	U
1311	02/18/11	6010B	02/21/11	7440-02-0	Nickel	0.05	0.32	
1311	02/18/11	6010B	02/21/11	7782-49-2	Selenium	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-22-4	Silver	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit

## INORGANICS ANALYSIS DATA SHEET

TCLP METALS

Page 1 of 1


Sample ID: JF-PLSD-PS-37-2

SAMPLE

Lab Sample ID: SJ49F

LIMS ID: 11-3472

Matrix: Soil

Data Release Authorized: 

Reported: 02/23/11

QC Report No: SJ49-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 01/24/11

Date Received: 01/24/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
1311	02/18/11	6010B	02/21/11	7440-38-2	Arsenic	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-39-3	Barium	0.02	0.24	
1311	02/18/11	6010B	02/21/11	7440-43-9	Cadmium	0.01	0.07	
1311	02/18/11	6010B	02/21/11	7440-47-3	Chromium	0.02	0.06	
1311	02/18/11	6010B	02/21/11	7439-92-1	Lead	0.1	4.0	
1311	02/18/11	7470A	02/22/11	7439-97-6	Mercury	0.0001	0.0001	U
1311	02/18/11	6010B	02/21/11	7440-02-0	Nickel	0.05	1.23	
1311	02/18/11	6010B	02/21/11	7782-49-2	Selenium	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-22-4	Silver	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit

## INORGANICS ANALYSIS DATA SHEET

TCLP METALS


Page 1 of 1

Sample ID: JF-PLSD-PS-PUBLIC  
SAMPLE

Lab Sample ID: SJ49G

LIMS ID: 11-3473

Matrix: Soil

Data Release Authorized: 

Reported: 02/23/11

QC Report No: SJ49-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 01/24/11

Date Received: 01/24/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
1311	02/18/11	6010B	02/21/11	7440-38-2	Arsenic	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-39-3	Barium	0.02	0.34	
1311	02/18/11	6010B	02/21/11	7440-43-9	Cadmium	0.01	0.04	
1311	02/18/11	6010B	02/21/11	7440-47-3	Chromium	0.02	0.04	
1311	02/18/11	6010B	02/21/11	7439-92-1	Lead	0.1	1.2	
1311	02/18/11	7470A	02/22/11	7439-97-6	Mercury	0.0001	0.0001	U
1311	02/18/11	6010B	02/21/11	7440-02-0	Nickel	0.05	0.21	
1311	02/18/11	6010B	02/21/11	7782-49-2	Selenium	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-22-4	Silver	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit



**INORGANICS ANALYSIS DATA SHEET**

**TCLP METALS**


Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: SJ49MB

LIMS ID: 11-3468

Matrix: Soil

Data Release Authorized: 

Reported: 02/23/11

QC Report No: SJ49-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
1311	02/18/11	6010B	02/21/11	7440-38-2	Arsenic	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-39-3	Barium	0.02	0.02	U
1311	02/18/11	6010B	02/21/11	7440-43-9	Cadmium	0.01	0.01	U
1311	02/18/11	6010B	02/21/11	7440-47-3	Chromium	0.02	0.02	U
1311	02/18/11	6010B	02/21/11	7439-92-1	Lead	0.1	0.1	U
1311	02/18/11	7470A	02/22/11	7439-97-6	Mercury	0.0001	0.0001	U
1311	02/18/11	6010B	02/21/11	7440-02-0	Nickel	0.05	0.05	U
1311	02/18/11	6010B	02/21/11	7782-49-2	Selenium	0.2	0.2	U
1311	02/18/11	6010B	02/21/11	7440-22-4	Silver	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit





**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants

February 21, 2011

Tom Colligan  
Floyd Snider  
601 Union Street, Suite 600  
Seattle, WA 98101-2341

**RE: Project: Jorgensen Forge**  
**ARI Job No: SJ56**

Dear Tom:

Please find enclosed analytical results and the original Chain of Custody documentation (COC) for the project referenced above. Analytical Resources, Incorporated (ARI) accepted one water sample and one soil sample on February 17, 2011. The samples were received in good condition. The soil sample was logged under a different ARI SDG based on client specified turn around times.

The sample was analyzed for PCBs, as requested.

No analytical complications were noted for this analysis. Quality control results are included for your review.


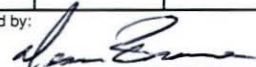
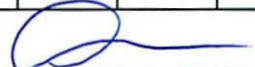
A copy of the reports and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

  
ANALYTICAL RESOURCES, INC.

Kelly Bottem  
Client Services Manager  
kellyb@arilabs.com  
206-695-6211  
Enclosures

# Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: <b>5556</b>		Turn-around Requested: <b>2 DAY sample #1; Standard other</b>		Page: <b>1</b> of <b>1</b>		 <b>Analytical Resources, Incorporated</b> Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)			
ARI Client Company: <b>FLOYD SNIDER</b>		Phone: <b>206 292 2078</b>		Date: <b>2/17/11</b>				Ice Present? <b>Y</b>	
Client Contact: <b>NICK GARSON / TOM COLLIGAN</b>				No. of Coolers: <b>1</b>				Cooler Temps: <b>2.2</b>	
Client Project Name: <b>JORGENSEN FORGE</b>				Analysis Requested				Notes/Comments	
Client Project #: <b>7KPL2J0R</b>		Samplers: <b>D. BRAME</b>		<b>MTCA</b> <b>PCBs (8)</b> <b>R/CRA Metals</b> <b>TCLP</b>					
Sample ID	Date	Time	Matrix	No. Containers					
JF-PLSD-RJW-4L	2/15/11	1145	Water	1	X				2-DAY
JF-PLSD-SWC-17	2/17/11	1215	Soil	1	X	X			STANDARD
Comments/Special Instructions		Relinquished by:  (Signature)		Received by:  (Signature)		Relinquished by: (Signature)		Received by: (Signature)	
		Printed Name: <b>DEAN BRAME</b>		Printed Name: <b>A. Volgardsen</b>		Printed Name: 		Printed Name: 	
		Company: <b>FLOYD SNIDER</b>		Company: <b>ARI</b>		Company: 		Company: 	
		Date & Time: <b>2/17/11 1434</b>		Date & Time: <b>2/17/11 1436</b>		Date & Time: 		Date & Time: 	

**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

# Sample ID Cross Reference Report



ARI Job No: SJ56  
Client: The Boeing Company  
Project Event: 7KPL2JOR  
Project Name: Jorgensen Forge

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. JF-PLSD-RJW-4L	SJ56A	11-3497	Water	02/15/11 11:45	02/17/11 14:36

Printed 02/17/11





# Cooler Receipt Form

ARI Client: Boeing

COC No(s): \_\_\_\_\_ NA

Assigned ARI Job No: SI56

Project Name: Jorgensen forge

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: \_\_\_\_\_

Tracking No: \_\_\_\_\_ NA

## Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES YES NO

Were custody papers properly filled out (ink, signed, etc.) YES YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 2.2

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90941619

Cooler Accepted by: AV Date: 2/17/11 Time: 1436

**Complete custody forms and attach all shipping documents**

## Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: \_\_\_\_\_

Was sufficient ice used (if appropriate)? NA YES YES NO

Were all bottles sealed in individual plastic bags? YES YES NO

Did all bottles arrive in good condition (unbroken)? YES YES NO

Were all bottle labels complete and legible? YES YES NO

Did the number of containers listed on COC match with the number of containers received? YES YES NO

Did all bottle labels and tags agree with custody papers? YES YES NO

Were all bottles used correct for the requested analyses? YES YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES YES NO

Date VOC Trip Blank was made at ARI: NA NA

Was Sample Split by ARI: NA YES Date/Time: \_\_\_\_\_ Equipment: \_\_\_\_\_ Split by: \_\_\_\_\_

Samples Logged by: AV Date: 2/17/11 Time: 1452

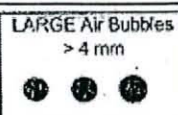
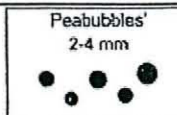
**\*\* Notify Project Manager of discrepancies or concerns \*\***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

### Additional Notes, Discrepancies, & Resolutions:

By: \_\_\_\_\_

Date: \_\_\_\_\_



Small → "sm"

Peabubbles → "pb"

Large → "lg"


Headspace → "hs"

Sample ID: JF-PLSD-RJW-4L  
SAMPLE

Lab Sample ID: SJ56A

LIMS ID: 11-3497

Matrix: Water

Data Release Authorized: 

Reported: 02/21/11

QC Report No: SJ56-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 02/15/11

Date Received: 02/17/11

Date Extracted: 02/17/11

Date Analyzed: 02/18/11 12:56

Instrument/Analyst: ECD7/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Sample Amount: 500 mL

Final Extract Volume: 1.0 mL

Dilution Factor: 1.00

Silica Gel: Yes

Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.10	< 0.10 U
53469-21-9	Aroclor 1242	0.10	< 0.10 U
12672-29-6	Aroclor 1248	0.10	1.6
11097-69-1	Aroclor 1254	0.10	1.9
11096-82-5	Aroclor 1260	0.16	< 0.16 Y
11104-28-2	Aroclor 1221	0.10	< 0.10 U
11141-16-5	Aroclor 1232	0.10	< 0.10 U
37324-23-5	Aroclor 1262	0.10	< 0.10 U

Reported in µg/L (ppb)


**PCB Surrogate Recovery**

Decachlorobiphenyl	80.8%
Tetrachlorometaxylene	68.5%

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: MB-021711  
METHOD BLANK

Lab Sample ID: MB-021711  
LIMS ID: 11-3497  
Matrix: Water  
Data Release Authorized:   
Reported: 02/21/11

QC Report No: SJ56-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: NA  
Date Received: NA

Date Extracted: 02/17/11  
Date Analyzed: 02/18/11 10:56  
Instrument/Analyst: ECD7/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes

Sample Amount: 500 mL  
Final Extract Volume: 1.0 mL  
Dilution Factor: 1.00  
Silica Gel: Yes  
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.10	< 0.10 U
53469-21-9	Aroclor 1242	0.10	< 0.10 U
12672-29-6	Aroclor 1248	0.10	< 0.10 U
11097-69-1	Aroclor 1254	0.10	< 0.10 U
11096-82-5	Aroclor 1260	0.10	< 0.10 U
11104-28-2	Aroclor 1221	0.10	< 0.10 U
11141-16-5	Aroclor 1232	0.10	< 0.10 U
37324-23-5	Aroclor 1262	0.10	< 0.10 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	78.0%
Tetrachlorometaxylene	66.0%



SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water


QC Report No: SJ56-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR

<u>Client ID</u>	<u>DCBP</u> <u>% REC</u>	<u>DCBP</u> <u>LCL-UCL</u>	<u>TCMX</u> <u>% REC</u>	<u>TCMX</u> <u>LCL-UCL</u>	<u>TOT</u>	<u>OUT</u>
MB-021711	78.0%	35-116	66.0%	29-100	0	
LCS-021711	81.2%	35-116	67.0%	29-100	0	
LCSD-021711	78.8%	35-116	62.0%	29-100	0	
JF-PLSD-RJW-4L	80.8%	10-128	68.5%	25-100	0	

Prep Method: SW3510C  
Log Number Range: 11-3497 to 11-3497

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

Sample ID: LCS-021711  
LCS/LCSD

Lab Sample ID: LCS-021711  
LIMS ID: 11-3497  
Matrix: Water  
Data Release Authorized:   
Reported: 02/21/11

QC Report No: SJ56-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: NA  
Date Received: NA

Date Extracted LCS/LCSD: 02/17/11

Sample Amount LCS: 500 mL  
LCSD: 500 mL

Date Analyzed LCS: 02/18/11 11:20  
LCSD: 02/18/11 11:44

Final Extract Volume LCS: 1.0 mL  
LCSD: 1.0 mL

Instrument/Analyst LCS: ECD7/JGR  
LCSD: ECD7/JGR

Dilution Factor LCS: 1.00  
LCSD: 1.00

GPC Cleanup: No  
Sulfur Cleanup: Yes

Silica Gel: Yes  
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.654	1.00	65.4%	0.647	1.00	64.7%	1.1%
Aroclor 1260	0.733	1.00	73.3%	0.735	1.00	73.5%	0.3%

**PCB Surrogate Recovery**

	LCS	LCSD
Decachlorobiphenyl	81.2%	78.8%
Tetrachlorometaxylene	67.0%	62.0%

Results reported in µg/L  
RPD calculated using sample concentrations per SW846.



**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants

February 28, 2011

Tom Colligan  
Floyd Snider  
601 Union Street, Suite 600  
Seattle, WA 98101-2341

**RE: Project: Jorgensen Forge**  
**ARI Job No: SJ68**

Dear Tom:

Please find enclosed analytical results and the original Chain of Custody documentation (COC) for the project referenced above. Analytical Resources, Incorporated (ARI) accepted one water sample and one soil sample on February 17, 2011. The samples were received in good condition. The water sample was logged under ARI SDG SJ56 based on client specified turn around times.

The sample was analyzed for PCBs and TCLP metals, as requested.

The PCBs LCS is out of control high for aroclor 1016. No action was taken.

The surrogate TCMX is out of control high for sample JF-PLSD-SWC-17.

No other analytical complications were noted for this analysis. Quality control results are included for your review.


A copy of the reports and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

  
ANALYTICAL RESOURCES, INC.

Kelly Bottem  
Client Services Manager  
kellyb@arilabs.com  
206-695-6211  
Enclosures

# Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: <u>5368</u>		Turn-around Requested: <u>2 DAY sample #1; Standard other</u>		Page: <u>1</u> of <u>1</u>		 <b>Analytical Resources, Incorporated</b> Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)				
ARI Client Company: <u>FLOYD SNIDER</u>		Phone: <u>206 292 2078</u>		Date: <u>2/17/11</u>				Ice Present? <u>X</u>		
Client Contact: <u>NICK GARSON / TOM COLLIGAN</u>				No. of Coolers: <u>1</u>				Cooler Temps: <u>2.2</u>		
Client Project Name: <u>JORGENSEN FORGE</u>				Analysis Requested				Notes/Comments		
Client Project #: <u>7KPL2J0R</u>		Samplers: <u>D. BRAME</u>		MTCA	PCBs (8)	RCRA Metals	TCLP			
Sample ID	Date	Time	Matrix	No. Containers	MTCA	PCBs (8)	RCRA Metals	TCLP		
JF-PLSD-RJW-4L	2/15/11	1145	Water	1		X				
JF-PLSD-SWC-17	2/17/11	1215	Soil	1		X	X			2-DAY STANDARD
Comments/Special Instructions		Relinquished by: (Signature) <u>[Signature]</u>		Received by: (Signature) <u>[Signature]</u>		Relinquished by: (Signature)		Received by: (Signature)		
		Printed Name: <u>DEAN BRAME</u>		Printed Name: <u>A. Voigardsen</u>		Printed Name:		Printed Name:		
		Company: <u>FLOYD SNIDER</u>		Company: <u>ARI</u>		Company:		Company:		
		Date & Time: <u>2/17/11 1434</u>		Date & Time: <u>2/17/11 1436</u>		Date & Time:		Date & Time:		

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**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.





# Cooler Receipt Form

ARI Client: Boeing  
COC No(s): \_\_\_\_\_ (NA)  
Assigned ARI Job No: 5168

Project Name: Jorgensen Forge  
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: \_\_\_\_\_  
Tracking No: \_\_\_\_\_ (NA)

## Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)  
Were custody papers included with the cooler? YES (NO)  
Were custody papers properly filled out (ink, signed, etc.) YES (NO)  
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 2.2  
If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90941619  
Cooler Accepted by: AV Date: 2/17/11 Time: 1430

Complete custody forms and attach all shipping documents

## Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)  
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: \_\_\_\_\_  
Was sufficient ice used (if appropriate)? NA YES (NO)  
Were all bottles sealed in individual plastic bags? YES (NO)  
Did all bottles arrive in good condition (unbroken)? YES (NO)  
Were all bottle labels complete and legible? YES (NO)  
Did the number of containers listed on COC match with the number of containers received? YES (NO)  
Did all bottle labels and tags agree with custody papers? YES (NO)  
Were all bottles used correct for the requested analyses? YES (NO)  
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES (NO)  
Were all VOC vials free of air bubbles? NA YES (NO)  
Was sufficient amount of sample sent in each bottle? YES (NO)  
Date VOC Trip Blank was made at ARI..... NA  
Was Sample Split by ARI: NA YES Date/Time: \_\_\_\_\_ Equipment: \_\_\_\_\_ Split by: \_\_\_\_\_

Samples Logged by: AV Date: 2/17/11 Time: 1755

**\*\* Notify Project Manager of discrepancies or concerns \*\***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

**Additional Notes, Discrepancies, & Resolutions:**

By: \_\_\_\_\_ Date: \_\_\_\_\_

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm	Small → "sm"
			Peabubbles → "pb"
			Large → "lg"
			Headspace → "hs"

# Sample ID Cross Reference Report



ARI Job No: SJ68  
Client: The Boeing Company  
Project Event: 7KPL2JOR  
Project Name: Jorgensen Forge

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. JF-PLSD-SWC-17	SJ68A	11-3586	Soil	02/17/11 12:15	02/17/11 14:36

Printed 02/17/11



Sample ID: JF-PLSD-SWC-17  
SAMPLE

Lab Sample ID: SJ68A  
LIMS ID: 11-3586  
Matrix: Soil  
Data Release Authorized: *AB*  
Reported: 02/28/11

QC Report No: SJ68-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: 02/17/11  
Date Received: 02/17/11

Date Extracted: 02/22/11  
Date Analyzed: 02/25/11 09:49  
Instrument/Analyst: ECD5/JLW  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 0.84 g-dry-wt  
Final Extract Volume: 40 mL  
Dilution Factor: 50.0  
Silica Gel: No  
Percent Moisture: 18.0%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	48,000	< 48,000 U
53469-21-9	Aroclor 1242	48,000	< 48,000 U
12672-29-6	Aroclor 1248	190,000	< 190,000 Y
<b>11097-69-1</b>	<b>Aroclor 1254</b>	<b>48,000</b>	<b>350,000</b>
11096-82-5	Aroclor 1260	48,000	< 48,000 U
11104-28-2	Aroclor 1221	48,000	< 48,000 U
11141-16-5	Aroclor 1232	48,000	< 48,000 U
37324-23-5	Aroclor 1262	48,000	< 48,000 U
11100-14-4	Aroclor 1268	48,000	< 48,000 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	145%
Tetrachlorometaxylene	114%

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: SJ68-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-022211	92.9%	51-127	88.0%	49-110	0
LCS-022211	101%	51-127	98.9%	49-110	0
JF-PLSD-SWC-17	145%	22-168	114%*	28-106	1

Medium Level Control Limits  
Prep Method: SW3580A  
Log Number Range: 11-3586 to 11-3586

Sample ID: MB-022211  
METHOD BLANK

Lab Sample ID: MB-022211  
LIMS ID: 11-3586  
Matrix: Soil  
Data Release Authorized: *AB*  
Reported: 02/28/11

QC Report No: SJ68-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: NA  
Date Received: NA

Date Extracted: 02/22/11  
Date Analyzed: 02/25/11 09:11  
Instrument/Analyst: ECD5/JLW  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 5.00 g  
Final Extract Volume: 40 mL  
Dilution Factor: 5.00  
Silica Gel: No  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	800	< 800 U
53469-21-9	Aroclor 1242	800	< 800 U
12672-29-6	Aroclor 1248	800	< 800 U
11097-69-1	Aroclor 1254	800	< 800 U
11096-82-5	Aroclor 1260	800	< 800 U
11104-28-2	Aroclor 1221	800	< 800 U
11141-16-5	Aroclor 1232	800	< 800 U
37324-23-5	Aroclor 1262	800	< 800 U
11100-14-4	Aroclor 1268	800	< 800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.9%
Tetrachlorometaxylene	88.0%

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LCS-022211  
LAB CONTROL

Lab Sample ID: LCS-022211  
LIMS ID: 11-3586  
Matrix: Soil  
Data Release Authorized: *AB*  
Reported: 02/28/11

QC Report No: SJ68-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: NA  
Date Received: NA

Date Extracted: 02/22/11  
Date Analyzed: 02/25/11 09:30  
Instrument/Analyst: ECD5/JLW  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 5.00 g-dry-wt  
Final Extract Volume: 40 mL  
Dilution Factor: 5.00  
Silica Gel: No  
Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	4460	4000	112%
Aroclor 1260	4060	4000	102%

PCB Surrogate Recovery

Decachlorobiphenyl	101%
Tetrachlorometaxylene	98.9%

Results reported in µg/kg (ppb)

## INORGANICS ANALYSIS DATA SHEET

TCLP METALS

Page 1 of 1


Sample ID: JF-PLSD-SWC-17

SAMPLE

Lab Sample ID: SJ68A

LIMS ID: 11-3586

Matrix: Soil

Data Release Authorized: 

Reported: 02/25/11

QC Report No: SJ68-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 02/17/11

Date Received: 02/17/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
1311	02/22/11	6010B	02/24/11	7440-38-2	Arsenic	0.2	0.2	U
1311	02/22/11	6010B	02/24/11	7440-39-3	Barium	0.02	0.06	
1311	02/22/11	6010B	02/24/11	7440-43-9	Cadmium	0.01	0.01	
1311	02/22/11	6010B	02/24/11	7440-47-3	Chromium	0.02	0.02	U
1311	02/22/11	6010B	02/24/11	7439-92-1	Lead	0.1	0.1	U
1311	02/22/11	7470A	02/22/11	7439-97-6	Mercury	0.0001	0.0001	U
1311	02/22/11	6010B	02/24/11	7782-49-2	Selenium	0.2	0.2	U
1311	02/22/11	6010B	02/24/11	7440-22-4	Silver	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit



## INORGANICS ANALYSIS DATA SHEET

TCLP METALS

Page 1 of 1


Sample ID: JF-PLSD-SWC-17

DUPLICATE

Lab Sample ID: SJ68A

LIMS ID: 11-3586

Matrix: Soil

Data Release Authorized: 

Reported: 02/25/11

QC Report No: SJ68-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 02/17/11

Date Received: 02/17/11

## MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6010B	0.2 U	0.2 U	0.0%	+/- 0.2	L
Barium	6010B	0.06	0.06	0.0%	+/- 0.02	L
Cadmium	6010B	0.01	0.01	0.0%	+/- 0.01	L
Chromium	6010B	0.02 U	0.02 U	0.0%	+/- 0.02	L
Lead	6010B	0.1 U	0.1 U	0.0%	+/- 0.1	L
Mercury	7470A	0.0001 U	0.0001 U	0.0%	+/- 0.0001	L
Selenium	6010B	0.2 U	0.2 U	0.0%	+/- 0.2	L
Silver	6010B	0.02 U	0.02 U	0.0%	+/- 0.02	L

Reported in mg/L

\*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

## INORGANICS ANALYSIS DATA SHEET

TCLP METALS

Page 1 of 1


Sample ID: JF-PLSD-SWC-17

MATRIX SPIKE

Lab Sample ID: SJ68A

LIMS ID: 11-3586

Matrix: Soil

Data Release Authorized: 

Reported: 02/25/11

QC Report No: SJ68-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 02/17/11

Date Received: 02/17/11

## MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6010B	0.2 U	4.1	4.0	102%	
Barium	6010B	0.06	3.93	4.00	96.8%	
Cadmium	6010B	0.01	1.08	1.00	107%	
Chromium	6010B	0.02 U	1.00	1.00	100%	
Lead	6010B	0.1 U	4.1	4.0	102%	
Mercury	7470A	0.0001 U	0.0011	0.0010	110%	
Selenium	6010B	0.2 U	4.2	4.0	105%	
Silver	6010B	0.02 U	1.02	1.00	102%	

Reported in mg/L )

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

**INORGANICS ANALYSIS DATA SHEET**

**TCLP METALS**


Page 1 of 1

**Sample ID: METHOD BLANK**

Lab Sample ID: SJ68MB

LIMS ID: 11-3586

Matrix: Soil

Data Release Authorized: 

Reported: 02/25/11

QC Report No: SJ68-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
1311	02/22/11	6010B	02/24/11	7440-38-2	Arsenic	0.2	0.2	U
1311	02/22/11	6010B	02/24/11	7440-39-3	Barium	0.02	0.02	U
1311	02/22/11	6010B	02/24/11	7440-43-9	Cadmium	0.01	0.01	U
1311	02/22/11	6010B	02/24/11	7440-47-3	Chromium	0.02	0.02	U
1311	02/22/11	6010B	02/24/11	7439-92-1	Lead	0.1	0.1	U
1311	02/22/11	7470A	02/22/11	7439-97-6	Mercury	0.0001	0.0001	U
1311	02/22/11	6010B	02/24/11	7782-49-2	Selenium	0.2	0.2	U
1311	02/22/11	6010B	02/24/11	7440-22-4	Silver	0.02	0.02	U

U-Analyte undetected at given RL

RL-Reporting Limit



**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants

March 3, 2011

Tom Colligan  
Floyd Snider  
601 Union Street, Suite 600  
Seattle, WA 98101-2341

**RE: Project: Jorgensen Forge**  
**ARI Job No: SK67**

Dear Tom:

Please find enclosed analytical results and the original Chain of Custody documentation (COC) for the project referenced above. Analytical Resources, Incorporated (ARI) accepted three water samples and one solid sample on February 25, 2011. The samples were received in good condition. The solid sample has been logged under a different ARI SDG based on client specified turn around times.

The samples were analyzed for PCBs, Total Metals, pH, Settleable Solids and Oil and Grease, as requested.

The PCB surrogate DCBP is out of control high for all associated samples. No action was taken.

No other analytical complications were noted for this analysis. Quality control results are included for your review.


A copy of the reports and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

  
ANALYTICAL RESOURCES, INC.

Kelly Bottom  
Client Services Manager  
kellyb@arilabs.com  
206-695-6211  
Enclosures

# Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: <b>SK67</b>					Turn-around Requested: <b>Water-5 Day; Solid-Standard</b>					Page: <b>1</b> of <b>1</b>		 <b>Analytical Resources, Incorporated</b> Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)						
ARI Client Company: <b>Floyd Snider</b>					Phone: <b>206-292-2078</b>					Date: <b>2/25/11</b>				Ice Present? <b>Y</b>				
Client Contact: <b>Nick Garson / Tom Colligan</b>										No. of Coolers: <b>2</b>				Cooler Temps: <b>2.7, 1.8</b>				
Client Project Name: <b>Jorgensen Forge</b>																		
Client Project #: <b>7KPL2 JOR</b>					Samplers: <b>D. BRAME</b>					Analysis Requested						Notes/Comments		
Sample ID					Date	Time	Matrix	No. Containers	PH	Total Metab	HEM (FOG)	Settleable Solids	MTCA PCBs (8)	TOTAL PCBs				
JF-PLSD-WC-B08					2/25/11	1250	Water	6	x	x	x	x	x				5-Day	
JF-PLSD-WC-B59					2/25/11	1330	Water	6	x	x	x	x	x				5-Day	
JF-PLSD-WC-B89					2/25/11	1355	Water	6	x	x	x	x	x				5-Day	
JF-PLSD-WD-12					2/25/11	1445	Solid	1						x			Standard	
Comments/Special Instructions					Relinquished by: (Signature) <i>[Signature]</i>			Received by: (Signature) <i>[Signature]</i>			Relinquished by: (Signature)			Received by: (Signature)				
					Printed Name: <b>DEAN BRAME</b>			Printed Name: <b>Taylor Strecker</b>			Printed Name:			Printed Name:				
					Company: <b>FLOYD SNIDER</b>			Company: <b>ARI</b>			Company:			Company:				
					Date & Time: <b>2/25/11 1605</b>			Date & Time: <b>2-25-11 16:10</b>			Date & Time:			Date & Time:				

**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.





Analytical Resources, Incorporated  
Analytical Chemists and Consultants

# Cooler Receipt Form

ARI Client: Boeing  
Floyd Snider JM

COC No(s): \_\_\_\_\_ NA

Assigned ARI Job No: SK67

Project Name: Jorgensen Forge

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: \_\_\_\_\_

Tracking No: \_\_\_\_\_ NA

## Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? \_\_\_\_\_

YES ☒ NO ☒

Were custody papers included with the cooler? \_\_\_\_\_

YES ☒ NO ☐

Were custody papers properly filled out (ink, signed, etc.) \_\_\_\_\_

YES ☒ NO ☐

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 2.7 1.8

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 90941619

Cooler Accepted by: JS Date: 2-25-11 Time: 16:10

**Complete custody forms and attach all shipping documents**

## Log-In Phase:

Was a temperature blank included in the cooler? \_\_\_\_\_

YES ☐ NO ☒

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: \_\_\_\_\_

Was sufficient ice used (if appropriate)? \_\_\_\_\_

NA ☐ YES ☒ NO ☐

Were all bottles sealed in individual plastic bags? \_\_\_\_\_

YES ☒ NO ☒

Did all bottles arrive in good condition (unbroken)? \_\_\_\_\_

YES ☒ NO ☐

Were all bottle labels complete and legible? \_\_\_\_\_

YES ☒ NO ☐

Did the number of containers listed on COC match with the number of containers received? \_\_\_\_\_

YES ☒ NO ☐

Did all bottle labels and tags agree with custody papers? \_\_\_\_\_

YES ☒ NO ☐

Were all bottles used correct for the requested analyses? \_\_\_\_\_

YES ☒ NO ☐

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...

NA ☒ YES ☐ NO ☐

Were all VOC vials free of air bubbles? \_\_\_\_\_

NA ☒ YES ☐ NO ☐

Was sufficient amount of sample sent in each bottle? \_\_\_\_\_

YES ☒ NO ☐

Date VOC Trip Blank was made at ARI: \_\_\_\_\_

NA ☒

Was Sample Split by ARI: ☒ YES Date/Time: \_\_\_\_\_ Equipment: \_\_\_\_\_ Split by: \_\_\_\_\_

Samples Logged by: JM Date: 2/25/11 Time: 1649

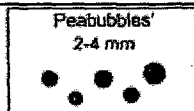
**\*\* Notify Project Manager of discrepancies or concerns \*\***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

## Additional Notes, Discrepancies, & Resolutions:

By: \_\_\_\_\_

Date: \_\_\_\_\_



Small → "sm"

Peabubbles → "pb"

Large → "lg"

Headspace → "hs"

# Sample ID Cross Reference Report



ARI Job No: SK67  
Client: The Boeing Company  
Project Event: 7KPL2JOR  
Project Name: Jorgensen Forge

Sample ID		ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	JF-PLSD-WC-B08	SK67A	11-4082	Water	02/25/11 12:50	02/25/11 16:10
2.	JF-PLSD-WC-B59	SK67B	11-4083	Water	02/25/11 13:30	02/25/11 16:10
3.	JF-PLSD-WC-B89	SK67C	11-4084	Water	02/25/11 13:55	02/25/11 16:10

Printed 02/25/11

## PRESERVATION VERIFICATION 02/25/11

Page 1 of 1



ARI Job No: SK67

PC: Kelly

VTSR: 02/25/11

Inquiry Number: NONE

Analysis Requested: 02/28/11

Contact: Garson, Nick

Client: The Boeing Company

Logged by: JM

Sample Set Used: Yes-481

Validatable Package: No

Deliverables:

Project #: 7KPL2JOR

Project: Jorgensen Forge

Sample Site:

SDG No:

Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
11-4082 SK67A	JF-PLSD-WC-B08					pass	TOT pass															
11-4083 SK67B	JF-PLSD-WC-B59						TOT															
11-4084 SK67C	JF-PLSD-WC-B89						TOT															

Checked By

JM

Date

2/25/11

## ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: JF-PLSD-WC-B08

SAMPLE

Lab Sample ID: SK67A

LIMS ID: 11-4082

Matrix: Water

Data Release Authorized: *AB*

Reported: 03/02/11

QC Report No: SK67-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 02/25/11

Date Received: 02/25/11

Date Extracted: 02/28/11

Date Analyzed: 03/02/11 09:31

Instrument/Analyst: ECD7/AAR

GPC Cleanup: No

Sulfur Cleanup: Yes

Sample Amount: 500 mL

Final Extract Volume: 1.0 mL

Dilution Factor: 10.0

Silica Gel: No

Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	3.5	< 3.5 Y
<b>11097-69-1</b>	<b>Aroclor 1254</b>	<b>1.0</b>	<b>5.5</b>
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U
37324-23-5	Aroclor 1262	1.0	< 1.0 U

Reported in µg/L (ppb)

## PCB Surrogate Recovery

Decachlorobiphenyl	140%
Tetrachlorometaxylene	73.0%

## ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

Page 1 of 1


Sample ID: JF-PLSD-WC-B59

SAMPLE

Lab Sample ID: SK67B

LIMS ID: 11-4083

Matrix: Water

Data Release Authorized: 

Reported: 03/02/11

QC Report No: SK67-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 02/25/11

Date Received: 02/25/11

Date Extracted: 02/28/11

Date Analyzed: 03/02/11 09:55

Instrument/Analyst: ECD7/AAR

GPC Cleanup: No

Sulfur Cleanup: Yes

Sample Amount: 500 mL

Final Extract Volume: 1.0 mL

Dilution Factor: 10.0

Silica Gel: No

Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	2.6	< 2.6 Y
<b>11097-69-1</b>	<b>Aroclor 1254</b>	<b>1.0</b>	<b>3.2</b>
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U
37324-23-5	Aroclor 1262	1.0	< 1.0 U

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	137%
Tetrachlorometaxylene	74.2%



**ORGANICS ANALYSIS DATA SHEET**

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: JF-PLSD-WC-B89

**SAMPLE**

Lab Sample ID: SK67C

LIMS ID: 11-4084

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 03/02/11

QC Report No: SK67-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 02/25/11

Date Received: 02/25/11

Date Extracted: 02/28/11

Date Analyzed: 03/02/11 10:19

Instrument/Analyst: ECD7/AAR

GPC Cleanup: No

Sulfur Cleanup: Yes

Sample Amount: 500 mL

Final Extract Volume: 1.0 mL

Dilution Factor: 10.0

Silica Gel: No

Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	2.0	< 2.0 Y
<b>11097-69-1</b>	<b>Aroclor 1254</b>	<b>1.0</b>	<b>2.1</b>
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U
37324-23-5	Aroclor 1262	1.0	< 1.0 U

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	131%
Tetrachlorometaxylene	69.2%

**ORGANICS ANALYSIS DATA SHEET**

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: MB-022811

METHOD BLANK

Lab Sample ID: MB-022811

LIMS ID: 11-4082

Matrix: Water

Data Release Authorized: *BB*

Reported: 03/02/11

QC Report No: SK67-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: NA

Date Received: NA

Date Extracted: 02/28/11

Date Analyzed: 03/01/11 13:25

Instrument/Analyst: ECD7/AAR

GPC Cleanup: No

Sulfur Cleanup: Yes

Sample Amount: 500 mL

Final Extract Volume: 1.0 mL

Dilution Factor: 1.00

Silica Gel: No

Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.10	< 0.10 U
53469-21-9	Aroclor 1242	0.10	< 0.10 U
12672-29-6	Aroclor 1248	0.10	< 0.10 U
11097-69-1	Aroclor 1254	0.10	< 0.10 U
11096-82-5	Aroclor 1260	0.10	< 0.10 U
11104-28-2	Aroclor 1221	0.10	< 0.10 U
11141-16-5	Aroclor 1232	0.10	< 0.10 U
37324-23-5	Aroclor 1262	0.10	< 0.10 U

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	89.2%
Tetrachlorometaxylene	71.2%

**SW8082/PCB WATER SURROGATE RECOVERY SUMMARY**

Matrix: Water

QC Report No: SK67-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR

<u>Client ID</u>	<u>DCBP</u> <u>% REC</u>	<u>DCBP</u> <u>LCL-UCL</u>	<u>TCMX</u> <u>% REC</u>	<u>TCMX</u> <u>LCL-UCL</u>	<u>TOT</u>	<u>OUT</u>
MB-022811	89.2%	35-116	71.2%	29-100	0	
LCS-022811	92.0%	35-116	77.0%	29-100	0	
LCSD-022811	90.8%	35-116	75.5%	29-100	0	
JF-PLSD-WC-B08	140%*	10-128	73.0%	25-100	1	
JF-PLSD-WC-B59	137%*	10-128	74.2%	25-100	1	
JF-PLSD-WC-B89	131%*	10-128	69.2%	25-100	1	

Prep Method: SW3510C  
Log Number Range: 11-4082 to 11-4084

**ORGANICS ANALYSIS DATA SHEET**

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: LCS-022811

LCS/LCSD

Lab Sample ID: LCS-022811

LIMS ID: 11-4082

Matrix: Water

Data Release Authorized: *B*

Reported: 03/02/11

QC Report No: SK67-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: NA

Date Received: NA

Date Extracted LCS/LCSD: 02/28/11

Sample Amount LCS: 500 mL

LCSD: 500 mL

Date Analyzed LCS: 03/01/11 13:49

Final Extract Volume LCS: 1.0 mL

LCSD: 03/01/11 14:13

LCSD: 1.0 mL

Instrument/Analyst LCS: ECD7/AAR

Dilution Factor LCS: 1.00

LCSD: ECD7/AAR

LCSD: 1.00

GPC Cleanup: No

Silica Gel: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.756	1.00	75.6%	0.790	1.00	79.0%	4.4%
Aroclor 1260	0.796	1.00	79.6%	0.822	1.00	82.2%	3.2%

**PCB Surrogate Recovery**

	LCS	LCSD
Decachlorobiphenyl	92.0%	90.8%
Tetrachlorometaxylene	77.0%	75.5%

Results reported in µg/L

RPD calculated using sample concentrations per SW846.

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1


Sample ID: JF-PLSD-WC-B08

**SAMPLE**

Lab Sample ID: SK67A

LIMS ID: 11-4082

Matrix: Water

Data Release Authorized: 

Reported: 03/02/11

QC Report No: SK67-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 02/25/11

Date Received: 02/25/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	02/28/11	6010B	03/01/11	7440-43-9	Cadmium	0.002	0.002	U
3010A	02/28/11	6010B	03/01/11	7440-47-3	Chromium	0.005	0.005	U
3010A	02/28/11	6010B	03/01/11	<b>7440-50-8</b>	<b>Copper</b>	0.002	<b>0.006</b>	
3010A	02/28/11	6010B	03/01/11	7439-92-1	Lead	0.02	0.02	U
3010A	02/28/11	6010B	03/01/11	7440-02-0	Nickel	0.01	0.01	U
3010A	02/28/11	6010B	03/01/11	7440-22-4	Silver	0.003	0.003	U
3010A	02/28/11	6010B	03/01/11	<b>7440-66-6</b>	<b>Zinc</b>	0.01	<b>0.01</b>	

U-Analyte undetected at given RL

RL-Reporting Limit



## INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: JF-PLSD-WC-B59

SAMPLE

Lab Sample ID: SK67B

LIMS ID: 11-4083

Matrix: Water

Data Release Authorized 

Reported: 03/02/11

QC Report No: SK67-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 02/25/11

Date Received: 02/25/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	02/28/11	6010B	03/01/11	7440-43-9	Cadmium	0.002	0.002	U
3010A	02/28/11	6010B	03/01/11	7440-47-3	Chromium	0.005	0.005	U
3010A	02/28/11	6010B	03/01/11	7440-50-8	Copper	0.002	0.006	
3010A	02/28/11	6010B	03/01/11	7439-92-1	Lead	0.02	0.02	U
3010A	02/28/11	6010B	03/01/11	7440-02-0	Nickel	0.01	0.01	U
3010A	02/28/11	6010B	03/01/11	7440-22-4	Silver	0.003	0.003	U
3010A	02/28/11	6010B	03/01/11	7440-66-6	Zinc	0.01	0.01	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**


Page 1 of 1

**Sample ID: METHOD BLANK**

Lab Sample ID: SK67MB

LIMS ID: 11-4082

Matrix: Water

Data Release Authorized: 

Reported: 03/02/11

QC Report No: SK67-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	02/28/11	6010B	03/01/11	7440-43-9	Cadmium	0.002	0.002	U
3010A	02/28/11	6010B	03/01/11	7440-47-3	Chromium	0.005	0.005	U
3010A	02/28/11	6010B	03/01/11	7440-50-8	Copper	0.002	0.002	U
3010A	02/28/11	6010B	03/01/11	7439-92-1	Lead	0.02	0.02	U
3010A	02/28/11	6010B	03/01/11	7440-02-0	Nickel	0.01	0.01	U
3010A	02/28/11	6010B	03/01/11	7440-22-4	Silver	0.003	0.003	U
3010A	02/28/11	6010B	03/01/11	7440-66-6	Zinc	0.01	0.01	U

U-Analyte undetected at given RL

RL-Reporting Limit

## INORGANICS ANALYSIS DATA SHEET

## TOTAL METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: SK67LCS

LIMS ID: 11-4082

Matrix: Water

Data Release Authorized 

Reported: 03/02/11

QC Report No: SK67-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: NA

Date Received: NA

## BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Cadmium	6010B	0.514	0.500	103%	
Chromium	6010B	0.498	0.500	99.6%	
Copper	6010B	0.506	0.500	101%	
Lead	6010B	1.98	2.00	99.0%	
Nickel	6010B	0.49	0.50	98.0%	
Silver	6010B	0.519	0.500	104%	
Zinc	6010B	0.49	0.50	98.0%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

SAMPLE RESULTS-CONVENTIONALS  
SK67-The Boeing Company



Matrix: Water  
Data Release Authorized:  
Reported: 03/02/11

A handwritten signature in black ink, appearing to be 'JG' or similar, written over the 'Data Release Authorized' line.

Project: Jorgensen Forge  
Event: 7KPL2JOR  
Date Sampled: 02/25/11  
Date Received: 02/25/11


Client ID: JF-PLSD-WC-B08  
ARI ID: 11-4082 SK67A

Analyte	Date Batch	Method	Units	RL	Sample
pH	02/25/11 022511#1	EPA 150.1	std units	0.01	7.58
Settleable Solids	02/26/11 022611#1	EPA 160.5	mL/L	0.1	< 0.1 U
HEM Oil & Grease	03/01/11 030111#1	EPA 1664A	mg/L	5.7	< 5.7 U

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
SK67-The Boeing Company



Matrix: Water  
Data Release Authorized:   
Reported: 03/02/11

Project: Jorgensen Forge  
Event: 7KPL2JOR  
Date Sampled: 02/25/11  
Date Received: 02/25/11


Client ID: JF-PLSD-WC-B59  
ARI ID: 11-4083 SK67B

Analyte	Date Batch	Method	Units	RL	Sample
pH	02/25/11 022511#1	EPA 150.1	std units	0.01	7.57
Settleable Solids	02/26/11 022611#1	EPA 160.5	mL/L	0.1	< 0.1 U
HEM Oil & Grease	03/01/11 030111#1	EPA 1664A	mg/L	5.7	< 5.7 U

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
SK67-The Boeing Company



Matrix: Water  
Data Release Authorized:   
Reported: 03/02/11

Project: Jorgensen Forge  
Event: 7KPL2JOR  
Date Sampled: 02/25/11  
Date Received: 02/25/11

Client ID: JF-PLSD-WC-B89  
ARI ID: 11-4084 SK67C


Analyte	Date Batch	Method	Units	RL	Sample
pH	02/25/11 022511#1	EPA 150.1	std units	0.01	7.61
Settleable Solids	02/26/11 022611#1	EPA 160.5	mL/L	0.1	< 0.1 U
HEM Oil & Grease	03/01/11 030111#1	EPA 1664A	mg/L	5.7	< 5.7 U

RL Analytical reporting limit  
U Undetected at reported detection limit



METHOD BLANK RESULTS-CONVENTIONALS  
SK67-The Boeing Company




Matrix: Water  
Data Release Authorized:   
Reported: 03/02/11

Project: Jorgensen Forge  
Event: 7KPL2JOR  
Date Sampled: NA  
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Settleable Solids	EPA 160.5	02/26/11	mL/L	< 0.1 U	
HEM Oil & Grease	EPA 1664A	03/01/11	mg/L	< 5.0 U	

LAB CONTROL RESULTS-CONVENTIONALS  
SK67-The Boeing Company



Matrix: Water  
Data Release Authorized:   
Reported: 03/02/11


Project: Jorgensen Forge  
Event: 7KPL2JOR  
Date Sampled: NA  
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
pH EPA 150.1	ICVL	02/25/11	std units	7.01	7.00	0.01
HEM Oil & Grease EPA 1664A	ICVL	03/01/11	mg/L	32.3	40.0	80.8%

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

REPLICATE RESULTS-CONVENTIONALS  
SK67-The Boeing Company



Matrix: Water  
Data Release Authorized:   
Reported: 03/02/11

Project: Jorgensen Forge  
Event: 7KPL2JOR  
Date Sampled: 02/25/11  
Date Received: 02/25/11

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: SK67A    Client ID: JF-PLSD-WC-B08						
pH	EPA 150.1	02/25/11	std units	7.58	7.58	0.00

pH is evaluated as the Absolute Difference between the values rather than  
Relative Percent Difference



**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants

March 1, 2011

Tom Colligan  
Floyd Snider  
601 Union Street, Suite 600  
Seattle, WA 98101-2341

**RE: Project: Jorgensen Forge**  
**ARI Job No: SK80**

Dear Tom:

Please find enclosed analytical results and the original Chain of Custody documentation (COC) for the project referenced above. Analytical Resources, Incorporated (ARI) accepted seven wipe samples and one solid sample on February 28, 2011. The samples were received in good condition. The solid sample has been placed on hold pending further instructions.

The samples were analyzed for PCBs, as requested.

No analytical complications were noted for this analysis. Quality control results are included for your review.

A copy of the reports and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.


Sincerely,



ANALYTICAL RESOURCES, INC.

Kelly Bottem  
Client Services Manager  
kellyb@arilabs.com  
206-695-6211  
Enclosures

# Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: <b>5280</b>		Turn-around Requested: <b>5-24hr; 1-Standard, 1-HOLD</b>		Page: <b>1</b> of <b>1</b>		 <b>Analytical Resources, Incorporated</b> Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)			
ARI Client Company: <b>FLOYD   SNIDER</b>		Phone: <b>206 292 2078</b>		Date: <b>2/28/11</b>				Ice Present? <b>Y</b>	
Client Contact: <b>NICK GARSON / TOM COLLIGAN</b>				No. of Coolers: <b>1</b>				Cooler Temps: <b>4.6</b>	
Client Project Name: <b>Sorgensen Forge</b>				Analysis Requested				Notes/Comments	
Client Project #: <b>7KPL2 SOR</b>		Samplers: <b>D. BRAME</b>							
Sample ID	Date	Time	Matrix	No. Containers	PCBs (1 App)				
JF-PLSD-WP-B10K1	2/28/11	1215	HEX WIPE	1	X			24 HR TURN	
JF-PLSD-WP-B10K2		1215		1					
JF-PLSD-WP-B10K3		1215		1					
JF-PLSD-WP-B10K4		1215		1					
JF-PLSD-WP-B10K5		1215		1					
JF-PLSD-WP-SF		1210	↓	1	↓			STANDARD	
JF-PLSD-PS-4L	↓	1115	Solid	1				HOLD	
JF-PLSD-WP-4L	2/28/11	10:45	W. pr	1	X			Relly to 2/28/11 3:20 pm	
Comments/Special Instructions	Relinquished by: (Signature) <i>Dean Brame</i>		Received by: (Signature) <i>A. Volgardsen</i>		Relinquished by: (Signature)		Received by: (Signature)		
	Printed Name: <b>DEAN BRAME</b>		Printed Name: <b>A. Volgardsen</b>		Printed Name:		Printed Name:		
	Company: <b>FLOYD   SNIDER</b>		Company: <b>ARI</b>		Company:		Company:		
	Date & Time: <b>2/28/11 1445</b>		Date & Time: <b>2/28/11 1450</b>		Date & Time:		Date & Time:		

**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

# Sample ID Cross Reference Report



ARI Job No: SK80  
Client: The Boeing Company  
Project Event: 7KPL2JOR  
Project Name: Jorgensen Forge

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. JF-PLSD-WP-B10K1	SK80A	11-4124	Wipe	02/28/11 12:15	02/28/11 14:50
2. JF-PLSD-WP-B10K2	SK80B	11-4125	Wipe	02/28/11 12:15	02/28/11 14:50
3. JF-PLSD-WP-B10K3	SK80C	11-4126	Wipe	02/28/11 12:15	02/28/11 14:50
4. JF-PLSD-WP-B10K4	SK80D	11-4127	Wipe	02/28/11 12:15	02/28/11 14:50
5. JF-PLSD-WP-B10K5	SK80E	11-4128	Wipe	02/28/11 12:15	02/28/11 14:50
6. JF-PLSD-WP-SF	SK80F	11-4129	Wipe	02/28/11 12:10	02/28/11 14:50
7. JF-PLSD-WP-4L	SK80G	11-4130	Wipe	02/28/11 10:45	02/28/11 14:50
8. JF-PLSD-PS-4L	SK80H	11-4131	Solid	02/28/11 11:15	02/28/11 14:50

Printed 03/01/11





# Cooler Receipt Form

ARI Client: Boeing  
COC No(s): \_\_\_\_\_ NA  
Assigned ARI Job No: SK80

Project Name: Jorgensen forge  
Delivered by: Fed-Ex UPS Courier Hand Delivered Other:  
Tracking No: \_\_\_\_\_ NA

## Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO  
Were custody papers included with the cooler? ..... YES NO  
Were custody papers properly filled out (ink, signed, etc.) ..... YES NO  
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 4.6  
If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90941619

Cooler Accepted by: AV Date: 2/28/11 Time: 1450

**Complete custody forms and attach all shipping documents**

## Log-In Phase:

Was a temperature blank included in the cooler? ..... YES NO  
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:  
Was sufficient ice used (if appropriate)? ..... NA YES NO  
Were all bottles sealed in individual plastic bags? ..... YES NO  
Did all bottles arrive in good condition (unbroken)? ..... YES NO  
Were all bottle labels complete and legible? ..... YES NO  
Did the number of containers listed on COC match with the number of containers received? ..... YES NO  
Did all bottle labels and tags agree with custody papers? ..... YES NO  
Were all bottles used correct for the requested analyses? ..... YES NO  
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO  
Were all VOC vials free of air bubbles? ..... NA YES NO  
Was sufficient amount of sample sent in each bottle? ..... YES NO  
Date VOC Trip Blank was made at ARI..... NA  
Was Sample Split by ARI : NA YES Date/Time: \_\_\_\_\_ Equipment: \_\_\_\_\_ Split by: \_\_\_\_\_

Samples Logged by: MM Date: 2/28/11 Time: 1500

**\*\* Notify Project Manager of discrepancies or concerns \*\***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

**Additional Notes, Discrepancies, & Resolutions:**  
JF-PLSD-WP-4L not on C.O.C, sampled 2/28/11 @ 1045.

By: AV Date: 2/28/11

<b>Small Air Bubbles</b> ~2mm 	<b>Peabubbles</b> 2-4 mm 	<b>LARGE Air Bubbles</b> > 4 mm 	Small → "sm" Peabubbles → "pb" Large → "lg" Headspace → "hs"
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ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

Sample ID: JF-PLSD-WP-B10K1  
SAMPLE

Lab Sample ID: SK80A  
LIMS ID: 11-4124  
Matrix: Wipe  
Data Release Authorized: *[Signature]*  
Reported: 03/01/11

QC Report No: SK80-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: 02/28/11  
Date Received: 02/28/11

Date Extracted: 02/28/11  
Date Analyzed: 03/01/11 09:15  
Instrument/Analyst: ECD5/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes

Sample Amount: 1.00 Wipe  
Final Extract Volume: 10 mL  
Dilution Factor: 5.00  
Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	100%
Tetrachlorometaxylene	86.9%

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

Sample ID: JF-PLSD-WP-B10K2  
SAMPLE

Lab Sample ID: SK80B  
LIMS ID: 11-4125  
Matrix: Wipe  
Data Release Authorized:  
Reported: 03/01/11

QC Report No: SK80-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: 02/28/11  
Date Received: 02/28/11

Date Extracted: 02/28/11  
Date Analyzed: 03/01/11 09:34  
Instrument/Analyst: ECD5/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes

Sample Amount: 1.00 Wipe  
Final Extract Volume: 10 mL  
Dilution Factor: 5.00  
Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg


PCB Surrogate Recovery

Decachlorobiphenyl	100%
Tetrachlorometaxylene	82.1%

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: JF-PLSD-WP-B10K3  
SAMPLE

Lab Sample ID: SK80C  
LIMS ID: 11-4126  
Matrix: Wipe  
Data Release Authorized:   
Reported: 03/01/11

QC Report No: SK80-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: 02/28/11  
Date Received: 02/28/11

Date Extracted: 02/28/11  
Date Analyzed: 03/01/11 09:53  
Instrument/Analyst: ECD5/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes

Sample Amount: 1.00 Wipe  
Final Extract Volume: 10 mL  
Dilution Factor: 5.00  
Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total  $\mu$ g

PCB Surrogate Recovery

Decachlorobiphenyl	104%
Tetrachlorometaxylene	86.6%

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

Sample ID: JF-PLSD-WP-B10K4  
SAMPLE

Lab Sample ID: SK80D  
LIMS ID: 11-4127  
Matrix: Wipe  
Data Release Authorized: *AB*  
Reported: 03/01/11

QC Report No: SK80-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: 02/28/11  
Date Received: 02/28/11

Date Extracted: 02/28/11  
Date Analyzed: 03/01/11 10:12  
Instrument/Analyst: ECD5/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes

Sample Amount: 1.00 Wipe  
Final Extract Volume: 10 mL  
Dilution Factor: 5.00  
Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	100%
Tetrachlorometaxylene	89.4%

**ORGANICS ANALYSIS DATA SHEET**

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: JF-PLSD-WP-B10K5

**SAMPLE**

Lab Sample ID: SK80E

LIMS ID: 11-4128

Matrix: Wipe

Data Release Authorized: *B*

Reported: 03/01/11

QC Report No: SK80-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 02/28/11

Date Received: 02/28/11

Date Extracted: 02/28/11

Date Analyzed: 03/01/11 10:31

Instrument/Analyst: ECD5/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Sample Amount: 1.00 Wipe

Final Extract Volume: 10 mL

Dilution Factor: 5.00

Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

**PCB Surrogate Recovery**

Decachlorobiphenyl	104%
Tetrachlorometaxylene	89.6%

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

Sample ID: JF-PLSD-WP-SF  
SAMPLE

Lab Sample ID: SK80F  
LIMS ID: 11-4129  
Matrix: Wipe  
Data Release Authorized: *AB*  
Reported: 03/01/11

QC Report No: SK80-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: 02/28/11  
Date Received: 02/28/11

Date Extracted: 02/28/11  
Date Analyzed: 03/01/11 10:49  
Instrument/Analyst: ECD5/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes

Sample Amount: 1.00 Wipe  
Final Extract Volume: 10 mL  
Dilution Factor: 5.00  
Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	103%
Tetrachlorometaxylene	88.4%

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

Sample ID: JF-PLSD-WP-4L  
SAMPLE

Lab Sample ID: SK80G  
LIMS ID: 11-4130  
Matrix: Wipe  
Data Release Authorized: *B*  
Reported: 03/01/11

QC Report No: SK80-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: 02/28/11  
Date Received: 02/28/11

Date Extracted: 02/28/11  
Date Analyzed: 03/01/11 11:08  
Instrument/Analyst: ECD5/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes

Sample Amount: 1.00 Wipe  
Final Extract Volume: 10 mL  
Dilution Factor: 5.00  
Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	4.0	< 4.0 Y
11097-69-1	Aroclor 1254	1.0	4.9
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	96.2%
Tetrachlorometaxylene	90.5%



## ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

Page 1 of 1


Sample ID: MB-022811

METHOD BLANK

Lab Sample ID: MB-022811

LIMS ID: 11-4124

Matrix: Wipe

Data Release Authorized: 

Reported: 03/01/11

QC Report No: SK80-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: NA

Date Received: NA

Date Extracted: 02/28/11

Date Analyzed: 03/01/11 11:27

Instrument/Analyst: ECD5/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Sample Amount: 1.00 Wipe

Final Extract Volume: 10 mL

Dilution Factor: 5.00

Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

## PCB Surrogate Recovery

Decachlorobiphenyl	110%
Tetrachlorometaxylene	89.9%

SW8082/PCB SURROGATE RECOVERY SUMMARY

Matrix: Wipe

QC Report No: SK80-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR

Client ID	DCBP	TCMX	TOT OUT
MB-022811	110%	89.9%	0
LCS-022811	105%	91.8%	0
LCSD-022811	106%	95.4%	0
JF-PLSD-WP-B10K1	100%	86.9%	0
JF-PLSD-WP-B10K2	100%	82.1%	0
JF-PLSD-WP-B10K3	104%	86.6%	0
JF-PLSD-WP-B10K4	100%	89.4%	0
JF-PLSD-WP-B10K5	104%	89.6%	0
JF-PLSD-WP-SF	103%	88.4%	0
JF-PLSD-WP-4L	96.2%	90.5%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3550C  
Log Number Range: 11-4124 to 11-4130

## ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: LCS-022811

LCS/LCSD

Lab Sample ID: LCS-022811

LIMS ID: 11-4124

Matrix: Wipe

Data Release Authorized: *AB*

Reported: 03/01/11

QC Report No: SK80-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 02/28/11

Date Received: 02/28/11

Date Extracted LCS/LCSD: 02/28/11

Sample Amount LCS: 1.00 Wipe

LCSD: 1.00 Wipe

Date Analyzed LCS: 03/01/11 11:46

Final Extract Volume LCS: 10 mL

LCSD: 03/01/11 12:05

LCSD: 10 mL

Instrument/Analyst LCS: ECD5/JGR

Dilution Factor LCS: 5.00

LCSD: ECD5/JGR

LCSD: 5.00

GPC Cleanup: No

Silica Gel: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	5.2	5.0	104%	5.2	5.0	104%	0.0%
Aroclor 1260	4.8	5.0	96.0%	5.1	5.0	102%	6.1%

## PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	105%	106%
Tetrachlorometaxylene	91.8%	95.4%

Reported in Total µg

RPD calculated using sample concentrations per SW846.



**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants

March 15, 2011

Tom Colligan  
Floyd Snider  
601 Union Street, Suite 600  
Seattle, WA 98101-2341

**RE: Project: Jorgensen Forge**  
**ARI Job No: SL50**

Dear Tom:

Please find enclosed analytical results and the original Chain of Custody documentation (COC) for the project referenced above. Analytical Resources, Incorporated (ARI) accepted one water sample on March 3, 2011. The sample was received in good condition.

The sample was analyzed for PCBs, as requested.

No analytical complications were noted for this analysis. Quality control results are included for your review.


A copy of the reports and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kelly Bottem  
Client Services Manager  
kellyb@arilabs.com  
206-695-6211  
Enclosures

## Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: SL50		Turn-around Requested: STANDARD		Page: 1 of 1		 <b>Analytical Resources, Incorporated</b> Analytical Chemists and Consultant 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)							
ARI Client Company: FLOYD SNIDER		Phone: 206 292 2078		Date: 3/3/11	Ice Present?: Y								
Client Contact: NICK GARSON / TOM COLLIGAN				No. of Coolers: 1	Cooler Temps: 5.6								
Client Project Name: Jorgensen Forge				Analysis Requested								Notes/Comments	
Client Project #: 7KPL2JOR		Samplers: D. BRAME											
Sample ID	Date	Time	Matrix	No. Containers	TOTAL PCBs								
JF-PLSD-CB-1OK	3/3/11	0830	Water	1	X								
Comments/Special Instructions		Relinquished by:		Received by:		Relinquished by:		Received by:					
		(Signature) [Signature]		(Signature) [Signature]		(Signature)		(Signature)					
		Printed Name:		Printed Name:		Printed Name:		Printed Name:					
		DEAN BRAME		Jennifer Millsap									
Company:		Company:		Company:		Company:		Company:					
FLOYD SNIDER		ARI											
Date & Time:		Date & Time:		Date & Time:		Date & Time:		Date & Time:					
3/3/11 1435		3/3/11 1435											

**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



# Cooler Receipt Form

ARI Client: Floyd / Snider

Project Name: Jorgensen Forge

COC No(s): \_\_\_\_\_ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: \_\_\_\_\_

Assigned ARI Job No: SL50

Tracking No: \_\_\_\_\_ NA

## Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)  
Were custody papers included with the cooler? ..... (YES) NO  
Were custody papers properly filled out (ink, signed, etc.) ..... (YES) NO  
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 5.6  
If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90941619

Cooler Accepted by: JM Date: 3/3/11 Time: 1435

**Complete custody forms and attach all shipping documents**

## Log-In Phase:

Was a temperature blank included in the cooler? ..... YES (NO)  
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: \_\_\_\_\_  
Was sufficient ice used (if appropriate)? ..... NA (YES) (NO)  
Were all bottles sealed in individual plastic bags? ..... YES (NO)  
Did all bottles arrive in good condition (unbroken)? ..... (YES) NO  
Were all bottle labels complete and legible? ..... (YES) NO  
Did the number of containers listed on COC match with the number of containers received? ..... (YES) NO  
Did all bottle labels and tags agree with custody papers? ..... (YES) NO  
Were all bottles used correct for the requested analyses? ..... (YES) NO  
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... (NA) YES NO  
Were all VOC vials free of air bubbles? ..... (NA) YES NO  
Was sufficient amount of sample sent in each bottle? ..... (YES) NO  
Date VOC Trip Blank was made at ARI..... (NA)  
Was Sample Split by ARI: (NA) YES Date/Time: \_\_\_\_\_ Equipment: \_\_\_\_\_ Split by: \_\_\_\_\_

Samples Logged by: AV Date: 3/3/11 Time: 1725

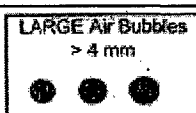
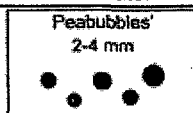
**\*\* Notify Project Manager of discrepancies or concerns \*\***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

## Additional Notes, Discrepancies, & Resolutions:

By: \_\_\_\_\_

Date: \_\_\_\_\_



Small → "sm"

Peabubbles → "pb"

Large → "lg"

Headspace → "hs"

# Sample ID Cross Reference Report



ARI Job No: SL50  
Client: The Boeing Company  
Project Event: 7KPL2JOR  
Project Name: Jorgensen Forge

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. JF-PLSD-CB-10K	SL50A	11-4526	Water	03/03/11 08:30	03/03/11 14:35

Printed 03/03/11



Sample ID: JF-PLSD-CB-10K  
SAMPLE

Lab Sample ID: SL50A  
LIMS ID: 11-4526  
Matrix: Water  
Data Release Authorized: *AB*  
Reported: 03/14/11

QC Report No: SL50-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: 03/03/11  
Date Received: 03/03/11

Date Extracted: 03/04/11  
Date Analyzed: 03/09/11 06:16  
Instrument/Analyst: ECD7/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes

Sample Amount: 500 mL  
Final Extract Volume: 5.0 mL  
Dilution Factor: 1.00  
Silica Gel: No  
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	1.0
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U


Reported in µg/L (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	76.8%
Tetrachlorometaxylene	75.5%

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

Sample ID: MB-030411  
METHOD BLANK

Lab Sample ID: MB-030411  
LIMS ID: 11-4526  
Matrix: Water  
Data Release Authorized:   
Reported: 03/14/11

QC Report No: SL50-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: NA  
Date Received: NA

Date Extracted: 03/04/11  
Date Analyzed: 03/09/11 04:17  
Instrument/Analyst: ECD7/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes

Sample Amount: 500 mL  
Final Extract Volume: 5.0 mL  
Dilution Factor: 1.00  
Silica Gel: No  
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	57.8%
Tetrachlorometaxylene	75.2%

**SW8082/PCB WATER SURROGATE RECOVERY SUMMARY**

Matrix: Water

QC Report No: SL50-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR

<u>Client ID</u>	<u>DCBP % REC</u>	<u>DCBP LCL-UCL</u>	<u>TCMX % REC</u>	<u>TCMX LCL-UCL</u>	<u>TOT OUT</u>
MB-030411	57.8%	41-111	75.2%	40-118	0
LCS-030411	58.2%	41-111	81.0%	40-118	0
LCSD-030411	58.8%	41-111	73.8%	40-118	0
JF-PLSD-CB-10K	76.8%	29-118	75.5%	38-118	0

Prep Method: SW3510C  
Log Number Range: 11-4526 to 11-4526

**ORGANICS ANALYSIS DATA SHEET**

PCB by GC/ECD Method SW8082

Page 1 of 1


Sample ID: LCS-030411

LCS/LCSD

Lab Sample ID: LCS-030411

LIMS ID: 11-4526

Matrix: Water

Data Release Authorized: 

Reported: 03/14/11

QC Report No: SL50-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: NA

Date Received: NA

Date Extracted LCS/LCSD: 03/04/11

Sample Amount LCS: 500 mL

LCSD: 500 mL

Date Analyzed LCS: 03/09/11 04:41

Final Extract Volume LCS: 5.0 mL

LCSD: 03/09/11 05:05

LCSD: 5.0 mL

Instrument/Analyst LCS: ECD7/JGR

Dilution Factor LCS: 1.00

LCSD: ECD7/JGR

LCSD: 1.00

GPC Cleanup: No

Silica Gel: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	4.60	5.00	92.0%	4.48	5.00	89.6%	2.6%
Aroclor 1260	4.08	5.00	81.6%	3.99	5.00	79.8%	2.2%

**PCB Surrogate Recovery**

	LCS	LCSD
Decachlorobiphenyl	58.2%	58.8%
Tetrachlorometaxylene	81.0%	73.8%

Results reported in µg/L

RPD calculated using sample concentrations per SW846.



**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants

March 9, 2011

Tom Colligan  
Floyd Snider  
601 Union Street, Suite 600  
Seattle, WA 98101-2341

**RE: Project: Jorgensen Forge**  
**ARI Job No: SL80**

Dear Tom:

Please find enclosed analytical results and the original Chain of Custody documentation (COC) for the project referenced above. Analytical Resources, Incorporated (ARI) accepted one wipe sample on March 7, 2011. The sample was received in good condition.

The sample was analyzed for PCBs, as requested.

No analytical complications were noted for this analysis. Quality control results are included for your review.

A copy of the reports and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kelly Bottem  
Client Services Manager  
kellyb@arilabs.com  
206-695-6211  
Enclosures

ARI Assigned Number: SL80	Turn-around Requested: 24 HR
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ARI Client Company: **FLOYD / SNIDER** Phone: **206 292 2078**

Client Contact: NICK GARSON / TOM COLLIGAN

Client Project Name: JORGENSEN FORGE

Client Project #: <b>7KPL 250R</b>	Samplers: <b>D. BRAME</b>
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Sample ID	Date	Time	Matrix	No. Containers
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JF-PLSD-WP-VT	3/7/11	1245	HEX WIPE	1
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Comments/Special Instructions	Relinquished by: (Signature) 	Received by: (Signature) _____
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Printed Name:	DEAN BRAME	Printed Name:	John
---------------	------------	---------------	------

Company:	FLOYD / SNIDER	Company:	ART
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Date & Time:	Date & Time:
3/7/11 1346	3/7/11

Page: 1 of 1

Date: 3/7/11	Ice Present? y
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No. of Coolers:	1	Cooler Temps:	3.1
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**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants  
4611 South 134th Place, Suite 100  
Tukwila, WA 98168  
206-695-6200 206-695-6201 (fax)

Analysis Requested								Notes/Comments

PCBs (1990)						
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X								
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	Relinquished by: (Signature)	Received by: (Signature)
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Jennifer Millsap	Printed Name:	Printed Name:
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	Company:	Company:
--	----------	----------

1346	Date & Time:	Date & Time:
------	--------------	--------------

**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



# Cooler Receipt Form

ARI Client: Boeing

Project Name: Jorgensen Forge

COC No(s): \_\_\_\_\_ (NA)

Delivered by: Fed-Ex UPS Courier (Hand Delivered Other: \_\_\_\_\_)

Assigned ARI Job No: SL80

Tracking No: \_\_\_\_\_ (NA)

## Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)  
Were custody papers included with the cooler? ..... (YES) NO  
Were custody papers properly filled out (ink, signed, etc.) ..... (YES) NO  
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 3.1  
If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90941619

Cooler Accepted by: JM Date: 3/7/11 Time: 1346

**Complete custody forms and attach all shipping documents**

## Log-In Phase:

Was a temperature blank included in the cooler? ..... YES (NO)  
What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs Baggies Foam Block Paper Other: \_\_\_\_\_  
Was sufficient ice used (if appropriate)? ..... NA (YES) NO  
Were all bottles sealed in individual plastic bags? ..... YES (NO)  
Did all bottles arrive in good condition (unbroken)? ..... (YES) (NO)  
Were all bottle labels complete and legible? ..... (YES) NO  
Did the number of containers listed on COC match with the number of containers received? ..... (YES) NO  
Did all bottle labels and tags agree with custody papers? ..... (YES) NO  
Were all bottles used correct for the requested analyses? ..... (YES) NO  
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... (NA) YES NO  
Were all VOC vials free of air bubbles? ..... (NA) YES NO  
Was sufficient amount of sample sent in each bottle? ..... (YES) NO  
Date VOC Trip Blank was made at ARI..... (NA) \_\_\_\_\_  
Was Sample Split by ARI : (NA) YES Date/Time: \_\_\_\_\_ Equipment: \_\_\_\_\_ Split by: \_\_\_\_\_

Samples Logged by: JM Date: 3/7/11 Time: 1450

**\*\* Notify Project Manager of discrepancies or concerns \*\***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

**Additional Notes, Discrepancies, & Resolutions:**

By: \_\_\_\_\_ Date: \_\_\_\_\_

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

# Sample ID Cross Reference Report




ARI Job No: SL80  
Client: The Boeing Company  
Project Event: 7KPL2JOR  
Project Name: Jorgensen Forge

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. JF-PLSD-WP-VT	SL80A	11-4666	Wipe	03/07/11 12:45	03/07/11 13:46

Printed 03/07/11



Sample ID: JF-PLSD-WP-VT  
SAMPLE

Lab Sample ID: SL80A  
LIMS ID: 11-4666  
Matrix: Wipe  
Data Release Authorized:   
Reported: 03/09/11

QC Report No: SL80-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: 03/07/11  
Date Received: 03/07/11

Date Extracted: 03/07/11  
Date Analyzed: 03/09/11 09:22  
Instrument/Analyst: ECD5/JLW  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes

Sample Amount: 1.00 Wipe  
Final Extract Volume: 10 mL  
Dilution Factor: 5.00  
Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
<b>11097-69-1</b>	<b>Aroclor 1254</b>	<b>1.0</b>	<b>6.3</b>
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U
37324-23-5	Aroclor 1262	1.0	< 1.0 U
11100-14-4	Aroclor 1268	1.0	< 1.0 U

Reported in Total µg

**PCB Surrogate Recovery**

Decachlorobiphenyl	112%
Tetrachlorometaxylene	95.2%

**ORGANICS ANALYSIS DATA SHEET**

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: MB-030711

METHOD BLANK

Lab Sample ID: MB-030711

LIMS ID: 11-4666

Matrix: Wipe

Data Release Authorized: *AB*

Reported: 03/09/11

QC Report No: SL80-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: NA

Date Received: NA

Date Extracted: 03/07/11

Date Analyzed: 03/09/11 08:26

Instrument/Analyst: ECD5/JLW

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Sample Amount: 1.00 Wipe

Final Extract Volume: 10 mL

Dilution Factor: 5.00

Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U
37324-23-5	Aroclor 1262	1.0	< 1.0 U
11100-14-4	Aroclor 1268	1.0	< 1.0 U

Reported in Total µg

**PCB Surrogate Recovery**

Decachlorobiphenyl	132%
Tetrachlorometaxylene	118%

**SW8082/PCB SURROGATE RECOVERY SUMMARY**

Matrix: Wipe

QC Report No: SL80-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR


<u>Client ID</u>	<u>DCBP</u>	<u>TCMX</u>	<u>TOT OUT</u>
MB-030711	132%	118%	0
LCS-030711	132%	117%	0
LCSD-030711	124%	109%	0
JF-PLSD-WP-VT	112%	95.2%	0

	<u>LCS/MB LIMITS</u>	<u>QC LIMITS</u>
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3580A  
Log Number Range: 11-4666 to 11-4666

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

Sample ID: LCS-030711  
LCS/LCSD

Lab Sample ID: LCS-030711  
LIMS ID: 11-4666  
Matrix: Wipe  
Data Release Authorized:   
Reported: 03/09/11

QC Report No: SL80-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: 03/07/11  
Date Received: 03/07/11

Date Extracted LCS/LCSD: 03/07/11

Sample Amount LCS: 1.00 Wipe  
LCSD: 1.00 Wipe

Date Analyzed LCS: 03/09/11 08:44

Final Extract Volume LCS: 10 mL

LCSD: 03/09/11 09:03

LCSD: 10 mL

Instrument/Analyst LCS: ECD5/JLW

Dilution Factor LCS: 5.00

LCSD: ECD5/JLW

LCSD: 5.00

GPC Cleanup: No

Silica Gel: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	6.6	5.0	132%	6.2	5.0	124%	6.2%
Aroclor 1260	6.4	5.0	128%	6.1	5.0	122%	4.8%

**PCB Surrogate Recovery**

	LCS	LCSD
Decachlorobiphenyl	132%	124%
Tetrachlorometaxylene	117%	109%

Reported in Total µg

RPD calculated using sample concentrations per SW846.



**Analytical Resources, Incorporated**

Analytical Chemists and Consultants

April 15, 2011

Tom Colligan  
Floyd Snider  
601 Union Street, Suite 600  
Seattle, WA 98101-2341

**RE: Project: Jorgensen Forge**  
**ARI Job No: SR61**

Dear Tom:

Please find enclosed analytical results and the original Chain of Custody documentation (COC) for the project referenced above. Analytical Resources, Incorporated (ARI) accepted three wipe samples on April 13, 2011. The samples were received in good condition.

The samples were analyzed for PCBs, as requested on the COC.

No analytical complications were noted for this analysis. Quality control results are included for your review.

A copy of the reports and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kelly Bottem  
Client Services Manager  
kellyb@arilabs.com  
206-695-6211  
Enclosures

## Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: <b>SRL</b>		Turn-around Requested: <b>24 HR</b>		Page: <b>1</b> of <b>1</b>		<b>Analytical Resources, Incorporated</b> Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)							
ARI Client Company: <b>FLOYD ISNIDER</b>		Phone: <b>206 292 2078</b>		Date: <b>4/13/11</b>	Ice Present? <b>N</b>								
Client Contact: <b>NICK GARSON / TOM COLLIGAN</b>				No. of Coolers: <b>(1)</b>	Cooler Temps: <b>13.7</b>								
Client Project Name: <b>Jorgensen Forge</b>													
Client Project #: <b>7KPL2 JOR</b>		Samplers: <b>D.BRAME</b>		<b>Analysis Requested</b>				<b>Notes/Comments</b>					
Sample ID	Date	Time	Matrix	No. Containers	PCB (ppb)								
JFPLSD-WP-B08	4/13/11	1510	HEX WIPE	1	X								
JF-PLSD-WP-B59	↓	1513	↓	1	↓								
JF-PLSD-WP-B89	↓	1518	↓	1	↓								
Comments/Special Instructions:				Relinquished by: (Signature)	Received by: (Signature)		Relinquished by: (Signature)		Received by: (Signature)				
				Printed Name: <b>DEAN BRAME</b>	Printed Name: <b>A. Volgardsen</b>		Printed Name:		Printed Name:				
				Company: <b>FLOYD ISNIDER</b>	Company: <b>ARI</b>		Company:		Company:				
				Date & Time: <b>4/13/11 1555</b>	Date & Time: <b>4/13/11 1555</b>		Date & Time:		Date & Time:				

**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

# Sample ID Cross Reference Report



ARI Job No: SR61  
Client: The Boeing Company  
Project Event: 7KPL2JOR  
Project Name: Jorgensen Forge

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. JF-PLSD-WP-B08	SR61A	11-8056	Wipe	04/13/11 15:10	04/13/11 15:55
2. JF-PLSD-WP-B59	SR61B	11-8057	Wipe	04/13/11 15:13	04/13/11 15:55
3. JF-PLSD-WP-B89	SR61C	11-8058	Wipe	04/13/11 15:18	04/13/11 15:55

Printed 04/13/11





# Cooler Receipt Form

ARI Client: Boeing  
COC No(s): \_\_\_\_\_ (NA)  
Assigned ARI Job No: SR61

Project Name: Jorgensen Forge  
Delivered by: Fed-Ex UPS Courier (Hand Delivered Other: \_\_\_\_\_)  
Tracking No: \_\_\_\_\_ NA

## Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO  
Were custody papers included with the cooler? YES NO  
Were custody papers properly filled out (ink, signed, etc.) YES NO  
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 13.7  
If cooler temperature is out of compliance fill out form 00070F NA for WMS 4/15/11 Temp Gun ID#: 909411619  
Cooler Accepted by: AV Date: 4/13/11 Time: 1555

Complete custody forms and attach all shipping documents

## Log-In Phase:

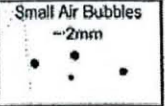


Was a temperature blank included in the cooler? YES NO  
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: \_\_\_\_\_  
Was sufficient ice used (if appropriate)? NA YES NO  
Were all bottles sealed in individual plastic bags? YES NO  
Did all bottles arrive in good condition (unbroken)? YES NO  
Were all bottle labels complete and legible? YES NO  
Did the number of containers listed on COC match with the number of containers received? YES NO  
Did all bottle labels and tags agree with custody papers? YES NO  
Were all bottles used correct for the requested analyses? YES NO  
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO  
Were all VOC vials free of air bubbles? NA YES NO  
Was sufficient amount of sample sent in each bottle? YES NO  
Date VOC Trip Blank was made at ARI... NA  
Was Sample Split by ARI: NA YES Date/Time: \_\_\_\_\_ Equipment: \_\_\_\_\_ Split by: \_\_\_\_\_  
Samples Logged by: AV Date: 4/13/11 Time: 1600

\*\* Notify Project Manager of discrepancies or concerns \*\*

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: \_\_\_\_\_ Date: \_\_\_\_\_

 Small Air Bubbles ~2mm	 Peabubbles 2-4 mm	 LARGE Air Bubbles > 4 mm	Small → "sm"
			Peabubbles → "pb"
			Large → "lg"
			Headspace → "hs"



ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
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Sample ID: JF-PLSD-WP-B08  
SAMPLE

Lab Sample ID: SR61A  
LIMS ID: 11-8056  
Matrix: Wipe  
Data Release Authorized: *AB*  
Reported: 04/15/11

QC Report No: SR61-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: 04/13/11  
Date Received: 04/13/11

Date Extracted: 04/14/11  
Date Analyzed: 04/15/11 09:10  
Instrument/Analyst: ECD7/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes

Sample Amount: 1.00 Wipe  
Final Extract Volume: 10 mL  
Dilution Factor: 1.00  
Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	89.0%
Tetrachlorometaxylene	85.8%

## ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

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Sample ID: JF-PLSD-WP-B59

SAMPLE

Lab Sample ID: SR61B

LIMS ID: 11-8057

Matrix: Wipe

Data Release Authorized: 

Reported: 04/15/11

QC Report No: SR61-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 04/13/11

Date Received: 04/13/11

Date Extracted: 04/14/11

Date Analyzed: 04/15/11 09:34

Instrument/Analyst: ECD7/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Sample Amount: 1.00 Wipe

Final Extract Volume: 10 mL

Dilution Factor: 1.00

Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U


Reported in Total µg

## PCB Surrogate Recovery

Decachlorobiphenyl	91.0%
Tetrachlorometaxylene	87.5%

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
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Sample ID: JF-PLSD-WP-B89  
SAMPLE

Lab Sample ID: SR61C  
LIMS ID: 11-8058  
Matrix: Wipe  
Data Release Authorized:   
Reported: 04/15/11

QC Report No: SR61-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR  
Date Sampled: 04/13/11  
Date Received: 04/13/11

Date Extracted: 04/14/11  
Date Analyzed: 04/15/11 09:58  
Instrument/Analyst: ECD7/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes

Sample Amount: 1.00 Wipe  
Final Extract Volume: 10 mL  
Dilution Factor: 1.00  
Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

**PCB Surrogate Recovery**

Decachlorobiphenyl	96.0%
Tetrachlorometaxylene	94.8%

## ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

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Sample ID: MB-041411

METHOD BLANK

Lab Sample ID: MB-041411

LIMS ID: 11-8056

Matrix: Wipe

Data Release Authorized: 

Reported: 04/15/11

QC Report No: SR61-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: NA

Date Received: NA

Date Extracted: 04/14/11

Date Analyzed: 04/15/11 10:22

Instrument/Analyst: ECD7/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Sample Amount: 1.00 Wipe

Final Extract Volume: 10 mL

Dilution Factor: 1.00

Silica Gel: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total  $\mu$ g

## PCB Surrogate Recovery

Decachlorobiphenyl	112%
Tetrachlorometaxylene	108%

SW8082/PCB SURROGATE RECOVERY SUMMARY

Matrix: Wipe

QC Report No: SR61-The Boeing Company  
Project: Jorgensen Forge  
7KPL2JOR

Client ID	DCBP	TCMX	TOT OUT
MB-041411	112%	108%	0
LCS-041411	106%	106%	0
LCSD-041411	106%	104%	0
JF-PLSD-WP-B08	89.0%	85.8%	0
JF-PLSD-WP-B59	91.0%	87.5%	0
JF-PLSD-WP-B89	96.0%	94.8%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3580A  
Log Number Range: 11-8056 to 11-8058

**ORGANICS ANALYSIS DATA SHEET**

PCB by GC/ECD Method SW8082

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Sample ID: LCS-041411

LCS/LCSD

Lab Sample ID: LCS-041411

LIMS ID: 11-8056

Matrix: Wipe

Data Release Authorized: *[Signature]*

Reported: 04/15/11

QC Report No: SR61-The Boeing Company

Project: Jorgensen Forge

7KPL2JOR

Date Sampled: 04/13/11

Date Received: 04/13/11

Date Extracted LCS/LCSD: 04/14/11

Sample Amount LCS: 1.00 Wipe

LCSD: 1.00 Wipe

Date Analyzed LCS: 04/15/11 10:46

Final Extract Volume LCS: 10 mL

LCSD: 04/15/11 11:10

LCSD: 10 mL

Instrument/Analyst LCS: ECD7/JGR

Dilution Factor LCS: 1.00

LCSD: ECD7/JGR

LCSD: 1.00

GPC Cleanup: No

Silica Gel: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	5.9	5.0	118%	4.2	5.0	84.0%	33.7%
Aroclor 1260	6.2	5.0	124%	4.3	5.0	86.0%	36.2%

**PCB Surrogate Recovery**

	LCS	LCSD
Decachlorobiphenyl	106%	106%
Tetrachlorometaxylene	106%	104%

Reported in Total µg

RPD calculated using sample concentrations per SW846.